

TWO NEW DIXIDAE (DIPTERA) FROM NORTH KOREA

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Abstract.—Two new species, *Dixa orientalae* and *Dixella corensis*, are described and their distinguishing morphological characteristics illustrated. A brief history of the unusual “unearthing” of these specimens (after 50+ years) is included.

Key Words: Insecta, Diptera, Dixidae, *Dixa*, *Dixella*

The species of Dixidae described below are the first to be reported from North Korea, a country in which little recent work in insect taxonomy is currently being published. The dixids are not particularly odd, but the story behind my acquisition of them is of interest. It all started with my coming to Massachusetts and meeting Dr. Charles P. Alexander.

“Doc Alex” at the time was a professor emeritus and distinguished taxonomist (see Byers 1982, Wheeler 1985) dedicated to the description of nematocerous Diptera, primarily in the family Tipulidae, but with interest in Tanyderidae, Trichoceridae, and Ptychopteridae, among others. He and his wife, Mabel, seemed to have organized most aspects of their lives as thoroughly as their work in the taxonomy of Diptera. For example, I knew that they maintained and added to an immense photographic file of biologists they met, and of wild flowers encountered in their collecting trips. I should also have suspected that their correspondence files were as well organized as all else I encountered with Doc and Mabel Alexander. It was only after Doc Alex’s death that I came to appreciate and benefit from their years of unceasing dedication to the details of life.

The executor of Dr. Alexander’s will,

William B. Nutting, called me to go through whatever entomological materials were still in the Alexander home after Doc Alex’s death. Of course the entire collection and pertinent literature previously had been removed by personnel of the Smithsonian Institution, the purchaser of Doc Alex’s collection. Among the materials I found in the back of a closet were: about ½ of the Alexander photo slide collection, an original typed index to the entire photographic slide collection (over 10,000 slides), a couple of vials containing body parts of tipulid holotypes and a variety of old entomological supplies. Among the latter were two tin mailing boxes, still partially wrapped, that caught my attention. The boxes were addressed to Doc Alex from Alexander Yankovsky and contained glassine triangles of specimens Yankovsky had collected during 1937 in North Korea.

As I sorted through the triangles of Crane flies to discard those destroyed by dermestids I recalled that Doc Alex had described several dixids, scattered among his thousands of tipulid descriptions. I suspected that these dixids were inadvertently included in collections bought by Alexander from professional collectors who couldn’t distinguish between dixids and the small types of tipulids. My idea was confirmed

when I found two triangles with dixids and mycetophilids among the tipulids. The dixids described below are from one of the triangles, marked "Ompo-600 ft."

Yankovsky, a nobleman, had escaped from Russia with his family and a large retinue of retainers at the time of the Bolshevik revolution and had set up an essentially feudal estate in the wilderness of northern Korea. He earned hard currency from a variety of activities, including the collection and sale of animals, ranging from tigers for zoos to spectacular Lepidoptera, reared and wholesaled to biological supply houses (Price 1936). Thus, it was through one of his advertisements that he came to the attention of Charles P. Alexander in the mid 1930s. Dr. Alexander, at the peak of his life's work on tipulid taxonomy, wrote Mr. Yankovsky, who agreed to collect tipulids in the mountains of Northern Korea for 5 cents/specimen.

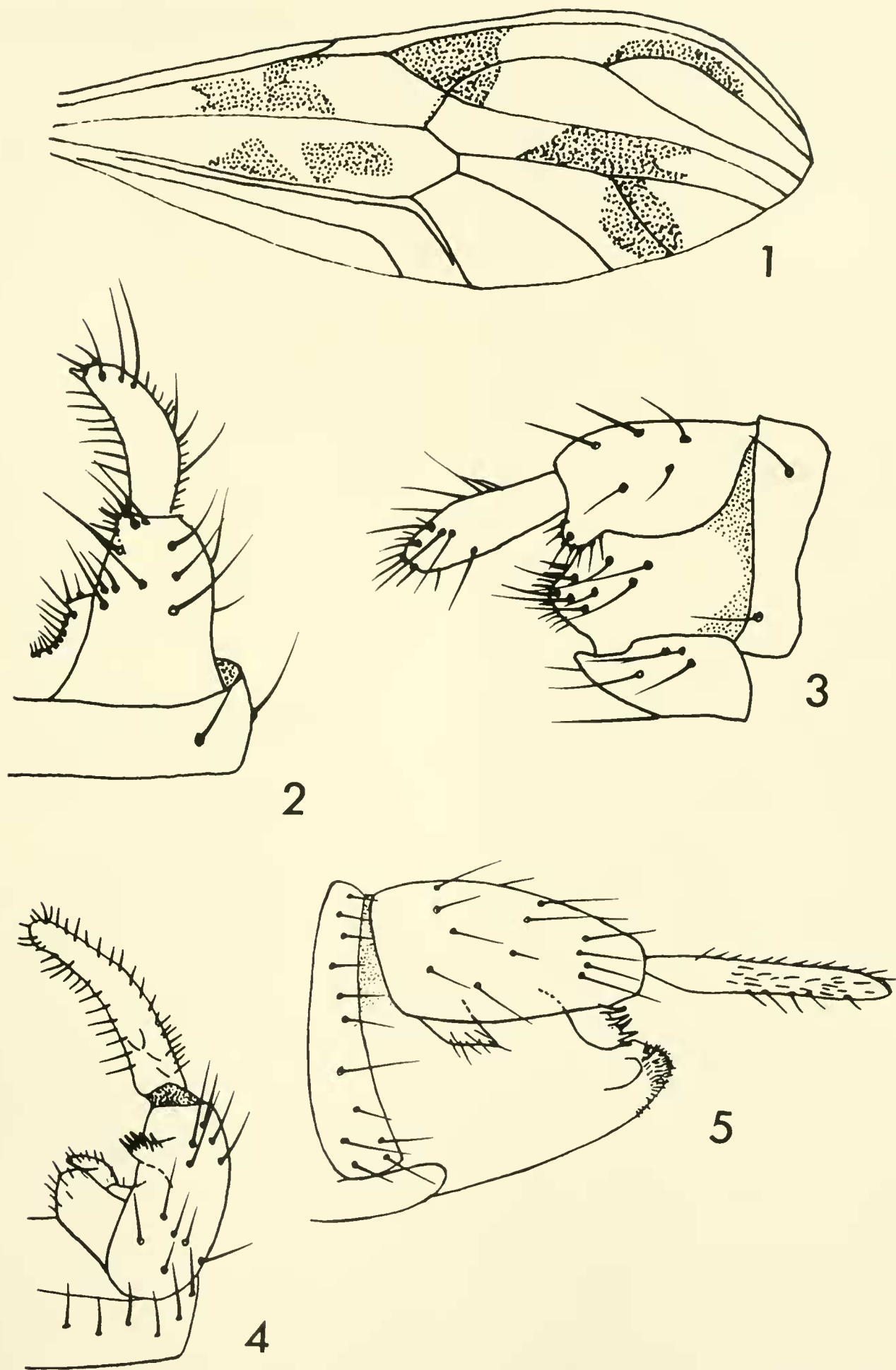
Yankovsky sent three shipments to Alexander containing his tipulid collections from 1937. Alexander apparently perused the specimens, picking out the undescribed species, labelling those he already knew, and writing Yankovsky a long letter of encouragement to continue and intensify his collecting efforts, all on the day the shipment arrived. The rest of the shipment was put aside and lay untouched for over forty years.

A visiting Korean scientist in our department, Dr. Hy Phong Lee, gave me the coordinates for the only "Ompo" he could find on modern-day maps of the Korean peninsula. These were for a small island off the extreme southern tip and didn't include the prefix, "Shuotsu," present on the mailing labels. Lawrence Feldman, the head librarian in our biological sciences library found a "Shuotsu" entry in a gazetteer for Korea. It identified a hot springs resort in North Korea, but without an "Ompo" associated with it. Paul Shepard, librarian in the University map library retrieved sets of modern maps of Korea, but none revealed a Shuotsu-Ompo.

After some deliberation about approaches to discovering the whereabouts of "Shuotsu-Ompo" I decided to see if any information was available in the Alexander files that had been included in the Smithsonian archives. William Cox, the assistant archivist, to whom I had previously mailed the index and photographic slides, had sent me a guide to the Alexander holdings (Cox 1985). A file on Korea-Manchuria and a file on A. M. Yankovsky were listed. I called the Archives and within 10 minutes Susan W. Glenn, another assistant archivist, had pulled the files and agreed to copy and send the material. Included was a map with both "Ompo" and "Shuotsu" marked. Reexamination of modern maps showed that "Shuotsu" was the name in Japanese-dominated Korea of a town now known as Churongjang. The nearby town of Ompo is now called Wadok. Wadok is located at the coordinates listed in the species descriptions.

Dixa orientalis Peters,
NEW SPECIES
Figs. 2, 3

Adult.—*Head*: Dark brown, microtrichose, with a row of setae along periphery of compound eye, a seta mesad of this row on vertex; frontoclypeus dark brown, with 2 setae much shorter than setal row on vertex; antenna dark brown, subequal in length to head and thorax; flagellar segments fusiform, first flagellomere width: length as 1:4.7. *Thorax*: Scutum with 3 dark brown vittae, yellow-brown and pruinose between, mesal vitta with a longitudinal row of 8 setae, and a row of 4 setae on lateral side of scutum from ventral edge extending dorsally just anterior to posterior limits of mesal vitta, all setae slightly shorter than peripheral row on vertex; scutellum with a transverse row of 13 setae, most lateral setae in row longest, progressively shorter mesally, with tips forming a straight line, another seta behind center of row. *Wing*: Clear, with small, diffuse cloud around r-m, length 4.4–4.9 mm; M3+4:M1+2 as 1:1.7, M3+4:Mst



Figs. 1-5. *Dixella corensis* Fig. 1, wing; Fig. 4, δ terminalia, dorsal view; Fig. 5, lateral view; *Dix orientalae*; Fig. 2, δ terminalia, dorsal view; Fig. 3, lateral view.

as 1:2.0–2.6, R2+3:R3 as 1:1.0–1.4. Crossvein r–m complete. *Halter*: Hyaline at base; club medium brown. *Legs*: Distal spiniform seta on tarsomere 3 of each leg; basal spiniform seta on tarsomere 3 of middle leg; 1–2 weak basal recurved spiniform setae on tarsomere 5 of foreleg; claws of all legs with 3–4 moderately long teeth on venter, 5 on claws of foreleg of 1 male; femur:tibia:tarsus length ratios of foreleg as 1:1.07–1.09:1.18–1.36; of middle leg as 1:0.96:1.33; of hind leg as 1:1.02–1.13:1.43–1.54. *Abdomen*: Medium brown; gonocoxite as in Figs. 2 and 3, lacking basal lobe, apical lobe projecting mesally without elaborations; gonostylus cylindrical, slightly swollen in middle (in lateral view), in dorsal view, curving mesally, subequal in length to gonocoxite; ejaculatory duct lacking; phallus membranous, papillose.

Specimens examined.—Holotype male, from Yondu mountain, within the Chuuron River drainage system, near the town of Wadok, 41°37'30"N, 129°32'30"E. Collected by Alexander M. Yankovsky on Nov. 8, 1937, at an altitude of about 600 feet, deposited in Alexander Collection, Smithsonian Institution, Washington. One male paratype also included in a glassine triangle labelled "Ompo-600 Ft."; deposited in the T. Michael Peters dixid collection, Department of Entomology, University of Massachusetts, Amherst, Massachusetts.

Dixella corensis Peters,

NEW SPECIES

Figs. 1, 4, 5

Adults.—*Head*: Dark brown; microtrichose; two long along dorsal periphery of eye; frontoclypeus with 12 setae (length 1½ times width of first flagellomere arranged in a circle; antenna concolorous with head; first flagellomere about 7.5 times as long as wide, slightly fusiform so that individual flagellomeres are distinct; antennal length over almost twice length of thorax. *Thorax*: Scutum uniformly dark brown, pruinose, without discernable vittae; scutellum with 11

setae (0.8 × length of first flagellomere), central one with another posterior to it; anterior pronotum with 2 setae (0.8 × width of pedicel); posterior pronotum without setae. Pleuron without setae. *Wing*: Lightly patterned as in Fig. 1, length 2.96 mm; M3+4: m1+2 as 1:1.6, M3+4:Mst as 1:1.6, R2+3: R3 as 1:1.39. Crossvein m–cu complete; r–m contacts radius at its furcation; *Halter*: hyaline, capitum scarcely broader than pedicel. *Legs*: Distal spiniform seta on tarsomeres 1–4; basal recurved spiniform seta on tarsomere 5 of foreleg, but less stout than on any other species ever examined; hind tibia distinctly swollen distally; claws of foreleg with 5 long ventral teeth, also 3 slender dorsal teeth; hind claws with 2 thin teeth on venter. *Abdomen*: Color medium brown. Male terminalia as in Figs. 4 and 5; without sclerotized ejaculatory duct; claspettes and penis valves were not discernable in cleared glycerin mount, even under interference microscopy.

Specimens examined.—Holotype male, from Yondu mountain, within the Chuuron River drainage system, near the town of Wadok, 41°37'30"N, 129°32'30"E.

DISCUSSION

The two new species described above are easily distinguished from the sole species reported in northeastern Asia, *Dixa guttipennis* Thomson. *Dixa orientalae* has only a single diffuse spot around r–m on the wing, whereas *Dixa guttipennis* Thompson has a series of 4 wing spots in a row from near the wing base to the fork of the Rs. The spots are unequal in size and spacing. In *Dixella corensis* the most distal wing spot starts at the fork of R₂ and R₃.

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